Original Article

Does Fear of Giving Birth Impact the Self-Efficacy Perceptions of a Pregnant Woman?

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ABSTRACT

Background: The fear of death during delivery develops before pregnancy; it is called "tokophobia". **Aim**: To compare the self-efficacy perceptions of pregnant women based on the degree of their fear of giving birth and to determine the relationship between the two considerations. **Methods:** This study was conducted with a descriptive and corelational design between January 2 and October 31, 2014 in a maternity hospital in Eastern Turkey. Women in their 28th–40th gestational week, visiting the hospital were included in the study. Version A of the Wijma delivery expectancy/experience scale and the short version of the birth self-efficacy inventory were used to collect the data. **Results:** Among the pregnant women with low fear of giving birth, the mean scores were 61.88±13.35 for Wijma and 217.50±40.31 for the self-efficacy scale. For the pregnant women with high fear of giving birth, Wijma scores were 115.98±15.92 and self-efficacy scale was 169.57±44.26. **Conclusion:** This study emphasize that pregnant women with low fear of giving birth had higher levels of self-efficacy perception compared to those with high fear of giving birth.

Key words: *birth, fear of birth, midwife, pregnant women, self-efficacy.*

The fear in women of giving birth to a child is called "tokophobia" and if this fear reaches extreme dimensions, it can affect women to a great extent [1]. It is normally distributed in the population of pregnant women and approximately 6% to 10% report a severe fear of birth meaning that the fear disturbs the woman in her daily functioning. In the studies examining fears among pregnant women, several common themes emerge including: fear of death of mother and/or infant, concern for the baby's well being, loss of control during birth, intolerable pain, fear of own incompetence and fear of actual delivery [2]. Severe fear of birth is observed in pregnancy complications: emergency or elective caesarean section, postnatal depression, posttraumatic stress syndrome, and deterioration of mother-infant interaction and also results in increased blood pressure and toxaemia [3]. The fear experienced by the mother may cause prematurity in the newborn due to increased uterine artery pressure, or post-term delivery and low American Paediatric Gross Assessment Record (APGAR) scores. In addition, asphyxia may also occur in the fetus as a result of the extended labor [4].

Self-efficacy means individuals' judgment of themselves related to their capacity to perform necessary activities [5]. Childbirth is related to the self-efficacy concept and pregnant women's self-efficacy levels should be evaluated during pregnancy to determine their self-confidence, abilities, and coping behaviours. Women's motivation can be affected by anxiety, birth pains, and cervical dilatation because of vaginal delivery this is why it is important to pre-determine the self efficacy [6,7]. In Lowe's study, low levels of self-efficacy expectancy during pregnancy among nulliparous women have been shown to be associated with a severe fear of birth. Also, there has been correlation between fear of birth and self-

efficacy among healthy primiparous women. Many pregnant women with high levels of childbirth fear were reported to have lost control and felt high levels of pain during delivery [8]. A pregnant woman's self-efficacy level affects her ability to cope with the pain during delivery and providing parenthood training and supporting mothers increases their self-efficacy [9].

In the literature, pregnant women have been generally examined, or perinatal and neonatal results have only been assessed, among pregnant women with fear of childbirth [4–10]. Wijma delivery expectancy/experience Scale, Version A, which was developed by Wijma, Wijma, and Zar (1998) to determine pregnant women's fear of giving birth [10]. Körükçü et al. (2008) conducted the reliability and validity study of the scale in Turkey, and Cronbach's alpha coefficient was found to be 0.92 [11]. Körükçü et al. recommended the use of the scale on pregnant women in their 28th–40th week of gestation [11]. While there has been no study comparing the self-efficacy of pregnant women according to their degree of fear of childbirth. Thus, the purpose of this study was to compare pregnant women's self-efficacy perceptions according to their degree of fear of childbirth and determine the correlation between them.

METHODS

This study was conducted with a descriptive and co relational design in the duration between January 2 and October 31, 2014 in a maternity hospital in Eastern Turkey. This hospital was selected due to its regional hospital quality and patient intensity. The hospital provides services to women from all socioeconomic levels. The study population consisted of pregnant women in their 28th–40th gestational week who had visited the aforementioned maternity hospital within one year for prenatal controls. This non-probability sample was comprised of groups including women ≤ 28-40 weeks gestation, no vision or hearing loss, openness to communication and cooperation, no complications during the pregnancy, aged 16 and older, able to read, write and understand the Turkish language, with the capacity to consent and a willingness to participate in the study.

As the target number of this specific group could not be reached, a sampling selection formula was used in situations where, the number of elements was unknown within the population to calculate the minimum sample size required to be included in the study. Upon calculation, it was determined that the sample group should comprise at least 233 people. However, due to the possibility of data loss for various reasons and to increase this study's reliability, the sample size was increased by almost 100%, and the study was completed with 456 pregnant women.

Data were collected using the Wijma delivery expectancy/experience scale, Version A which was developed by Wijma, Wijma, and Zar (1998) to determine pregnant women's fear of giving birth [10] and the short version of the birth self-efficacy inventory. A questionnaire was used and the researchers prepared a 19-question form to determine the participants' demographic characteristics and obstetric histories. As per the Wijma delivery expectancy/experience scale, the responses on the 33-item scale are scored from 0 to 5 on a six-point, Likert-type scale, with 0 signifying "completely" and 5 representing "never." The minimum score to be obtained on the scale is 0, and the maximum score is 165. Higher scores refer to higher levels of childbirth fear experienced by women. Negative-loaded questions on the scale (2, 3, 6, 7, 8, 11, 12, 15, 19, 20, 24, 25, 27, and 31) are reversely calculated to ensure consistency in measurement. Körükçü et al. [11] gathered scores on the Wijma Scale under four subgroups: pregnant women experiencing a 1) low level of childbirth fear (≤ 37 points); 2) medium level (38–65 points); 3) severe level (66–84 points); and 4) clinical level (≥ 85 points).

Birth Self-Efficacy Inventory measures the effect of women's self-confidence and coping skills and has 62 questions. This form developed by Lowe [12] in 1993. Ip et al. (2005) shortened Lowe's 62-item inventory to a 32-item version [13]. The short-version scale was developed to measure self-efficacy levels in childbirth. Ersoy (2011) conducted the Turkish validity and reliability study of this inventory and recommended its use on pregnant women between their 26th and 40th gestational week [14]. This inventory consists of two subscales: outcome expectancy and self-efficacy expectancy. Cronbach's alpha coefficient of the inventory was found to be 0.90. In our study, Cronbach's alpha coefficient was found to be 0.94 for the outcome expectancy subscale, 0.93 for the self-efficacy expectancy subscale, and 0.93 for the total inventory. Each subscale consists of 16 questions. The lowest score to be obtained on the inventory's subscales is 16, and the highest score is 160. Higher scores on each subscale refer to pregnant women's higher self-efficacy and outcome expectancies related to birth. The total lowest score to be obtained on the inventory is 32, whereas the total highest score is 320. Higher scores on the inventory signify higher levels of self-efficacy in childbirth.

Responses on this Likert-type inventory are scored from 1 to 10. The questions on the outcome expectancy subscale present options ranging from 1 ("not useful at all") to 10 ("very useful"). The first 13 questions on the self-efficacy expectancy subscale consist of options ranging from 1 ("I am completely sure") to 10 ("I am not sure at all") and are scored reversely. Conversely, questions 14–16 offer options ranging from 1 ("I am not

sure at all") to 10 ("I am completely sure"). Approval was granted by the ethics committee (Date: 10.10.2013, Number 2013-10-01) and the necessary permissions were obtained from the Erzurum Directorate of Public Health before conducting the study. Before the data collection, ethical guidelines were followed and "informed consent" principle was applied by explaining the study's purpose to the participants.

The researchers collected the data by using the face-to-face interview method. All forms were used for all pregnant women who agreed to participate in the study, and their scores on the Wijma delivery expectancy/experience scale were calculated. Afterwards, the women were divided into two groups (those with high and low levels of childbirth fear) according to their scores on the Wijma scale and the questions related to fear of giving birth in the questionnaire (Are you afraid of experiencing labour pains? Is birth a frightful occurrence for you?). Those who scored 0–65 points on the Wijma Scale (those experiencing low and medium levels of birth fear), were included in the group of low childbirth fear, and those who scored 66 points or above (those experiencing severe and clinical levels of childbirth fear), were included in the group of high birth fear. The participants who marked the "yes" option of the relevant questions in the questionnaire and scored 0–65 points on the Wijma Scale (42 women), were excluded from the low childbirth fear group. On the other hand, those who marked the "no" option and scored 66 points or above (35 women), were excluded from the high childbirth fear group. The questionnaire and scales took 10–15 minutes on average to complete. The data of the study were analysed by using the SPSS 11.5 program where the number, percentage, mean, Pearson's correlation, and independent sample t-tests, were used to assess the data.

RESULTS

The distribution of sociodemographic characteristics are shown in table 1. The difference in sociodemographic characteristics between the groups was statistically insignificant, and the groups had similar characteristics in terms of the variables.

Table 2 illustrates the distribution of obstetric characteristics of the pregnant women, difference in obstetric characteristics between the groups was statistically insignificant, and the groups had similar characteristics in terms of obstetric variables ($p>0.05$).

The comparison of the pregnant women's mean scores on the Wijma Scale showed a statistically significant difference ($p<0.001$) between the groups. The comparison of their mean scores on the inventory revealed a statistically significant difference ($p<0.001$) between all subscale mean scores and total mean scores (Table 3).

Table 1 - Comparison of Sociodemographic Characteristics of Pregnant Women

Characteristics	Pregnant women with low birth fear (n = 236)		Pregnant women with high birth fear (n = 220)		Total (n = 456)		Test, p value
	n	%	n	%	n	%	
Age							
18–22 years	42	17.8	59	26.8	101	22.1	X^2=7.70
23–27 years	64	27.1	62	28.2	126	27.6	df=3
28–32 years	83	35.2	70	31.8	153	33.6	p>0.05
33 years and over	47	19.9	29	13.2	76	16.7	
Educational level							
Primary school	79	33.5	74	33.6	153	33.6	X^2=6.33
Secondary school	54	22.9	69	31.4	123	27.0	df=3
High school	67	28.4	44	20.0	11	24.3	p>0.05
University graduate	36	15.3	33	15.0	69	15.1	
Profession							
Housewife	192	81.3	185	84.1	377	82.7	X^2=0.79
Worker	12	5.1	8	3.6	20	4.4	df=2
Public servant	32	13.6	27	12.3	59	12.9	p>0.05
Area of residence							
City	145	61.4	118	53.6	263	57.7	X^2=3.37
District	34	14.4	33	15.0	67	14.7	df=2
Village	57	24.2	69	31.4	126	27.6	p>0.05
Family type							X^2=2.45
Nuclear family	150	63.6	124	56.4	274	60.1	df=1
Extended family	86	36.4	96	43.6	182	39.9	p>0.05
Spouse's age							
21–25	32	13.6	42	19.1	74	16.2	X^2=7.31
26–30	71	30.1	77	35.0	148	32.5	df=3
31–35	78	33.0	50	22.7	128	28.1	p>0.05
36 and over	55	23.3	51	23.2	106	23.2	
Spouse's educational level	38	16.1	36	16.4	74	16.2	X^2=4.86
Primary school	77	32.6	92	41.8	169	37.1	df=3
Secondary school	76	32.2	56	25.5	132	28.9	p>0.05
High school	45	19.1	36	16.4	81	17.8	
University graduate							
Spousal support							X^2=0.92
Yes	199	84.3	178	80.9	377	82.7	df=1
No	37	15.7	42	19.1	79	17.3	p>0.05
Social support							X^2=1.70
Yes	174	73.7	150	68.2	324	71.1	df=1
No	62	26.3	70	31.8	132	28.9	p>0.05
Support provider	n=174		n=150		n=324		X^2=4.23
Mother	27	15.5	18	12.0	45	13.9	df=3
Mother-in-law	5	2.8	9	6.0	14	4.3	p>0.05
Other*	142	81.7	123	82.0	265	81.8	

*Those choosing some or all of the "more than one female

Table 2 - Comparison of Obstetric Characteristics of Pregnant Women

Characteristics	Pregnant women with low birth fear (n = 236)		Pregnant women with high birth fear (n = 220)		Total (n = 456)		Test, p value
	n	%	n	%	n	%	
Number of pregnancies							
1	76	32.2	62	28.2	138	30.3	X^2=5.88
2	67	28.4	84	38.2	151	33.1	df=3
3	46	19.5	31	14.1	77	16.9	p>0.05
4	47	19.9	43	19.5	90	19.7	
Number of children	(n=160)		(n=158)		(n = 318)		
1	40	25.0	52	32.9	92	28.9	X^2=7.49
2	44	27.5	53	33.5	97	30.5	df=3
3	47	29.4	28	17.7	75	23.6	p>0.05
4	29	18.1	25	15.8	54	17.0	
Planned pregnancy							X^2=3.69
Planned	167	70.8	137	62.3	304	66.7	df=1
Not planned	69	29.2	83	37.7	152	33.3	p>0.05
Gestational week							
30–35 weeks	123	52.1	128	58.2	251	55.0	X^2=1.69
36 weeks and over	113	47.9	92	41.8	205	45.0	df=1 p>0.05
Experienced problems in previous pregnancies							X^2=1.95
No	70	43.8	57	36.1	127	39.9	df=1
Yes	90	56.2	101	63.9	191	60.1	p>0.05
Type of experienced problem	(n=90)		(n=101)		(n = 191)		
Threatened abortion	61	67.8	80	79.2	141	73.8	X^2=3.45
Threatened preterm labor	7	7.8	6	5.9	13	6.8	df=3
Preeclampsia/eclampsia	9	10.0	7	6.9	16	8.4	p>0.05
Systemic disease	13	14.4	8	7.9	21	11.0	
Experiencing problems in current pregnancy							X^2=2.18
Yes	148	62.7	123	55.9	271	59.4	df=1
No	88	37.3	97	44.1	185	40.6	p>0.05
Type of experienced problem	(n=88)		(n=97)		(n = 185)		
Threatened abortion	40	45.5	60	61.8	100	54.1	X^2=5.01
Threatened preterm labor	24	27.3	18	18.6	42	22.7	df=2
Systemic disease	24	27.3	19	19.6	43	23.2	p>0.05
Receiving prenatal care							X^2=2.70
Yes	233	98.7	212	96.4	445	97.6	df=1
No	3	1.3	8	3.6	11	2.4	p>0.05

Table 3 - Distribution and Comparison of Pregnant Women's Min-Max Scores on the Wijma Scale and Birth Self-Efficacy Inventory and their Mean Scores

Scales			Groups		
			Pregnant women with low birth fear	Pregnant women with high birth fear	Test, p value
Wijma Delivery Expectancy/ Experience		Min-max scores	12–65	85–150	t=39.40
		Mean scores	61.88±13.35	115.98±15.92	p<0.001
Birth Self-Efficacy Inventory	Outcome expectancy	Min-max scores	51–160	31–160	t=6.01
		Average scores	132.60±22.36	116.82±32.99	p<0.001
	Self-efficacy expectancy	Min-max scores	16–160	16–124	t=12.32
		Average scores	84.90±27.43	52.74±28.26	p<0.001
	Total	Min-max scores	80–320	53–247	t=12.10
		Average scores	217.50±40.31	169.57±44.26	p<0.001

Table 4 - Correlation between Two Groups' Mean Scores on Wijma Delivery Expectancy/Experience Scale and Birth Self-Efficacy Inventory

Scales		Pregnant women with low birth fear		Pregnant women with high birth fear
Birth Self-Efficacy Inventory	Outcome expectancy	r p	-0.272* 0.000	-0.185* 0.006
	Self-efficacy expectancy	r p	-0.405* 0.000	0.056 0.412
	Total	r p	-0.427* 0.000	-0.102* 0.130

*p<0.001

Table 4 illustrates the correlation between the groups' mean scores on the Wijma Scale and the birth self-efficacy inventory. A statistically negative and significant correlation was found among the mean scores of the pregnant women with low birth fear on the Wijma Scale, their mean scores on the inventory's outcome expectancy and self-efficacy expectancy subscales, and the total mean score on the inventory ($p<0.001$). A statistically negative and significant correlation was found among the mean scores of the pregnant women with high birth fear on the Wijma Scale, their mean scores on the outcome expectancy subscale, and the total mean score on the inventory ($p<0.001$).

DISCUSSION

Childbirth is related to the self-efficacy concept. Pregnant women's self-efficacy levels should be determined during their period of pregnancy to ascertain their self-confidence capability and coping behaviours, because vaginal delivery is considerably affected by women's motivation. Self-efficacy levels in vaginal delivery are the most important source of stress that affects pain perception during delivery and women's control over it. The negative and positive experiences in birth play an important role in pain management [6].

This study showed that pregnant women with high levels of childbirth fear obtained higher scores on the Wijma delivery expectancy/experience Scale compared to pregnant women with low levels of childbirth fear. Additionally, self-efficacy perceptions of pregnant women with low fear of childbirth were found to be higher than those with high fear of childbirth. In parallel to this study's results, Lowe [8] divided pregnant women into two groups (with low and high levels of childbirth fear), and found a significant difference between their self-efficacy perceptions; those with high levels of birth fear had lower self-efficacy perceptions. Farley's study indicated that the feeling of confidence felt by pregnant women in labour had a reducing effect on their fear of birth [15].

In their study, Salomonsson et al. examined the correlation between fear of childbirth and self-efficacy levels among women who had delivered previously. The findings showed that pregnant women with high levels of childbirth fear had lower self-efficacy perceptions compared to those with medium levels of birth fear, similar to this study's results [16]. Women who have low self-efficacy for childbirth may be limited in their ability to generate motivation for coping with the labour experience since efficacy beliefs are central to the cognitive regulation of motivation [8]. If a woman does not believe that she is capable of the tasks or effort required to cope with labor, she is unlikely to be motivated even to try. Avoidance of, or withdrawal from, the experience through anesthesialanalgesia or even Cesarean-section becomes an attractive alternative. Likewise, her thoughts about labor, including her affective state, are influenced so that labor becomes an insurmountable task generating great anxiety and fear. Finally, the associated catecholamine response of anxiety and pain may increase the likelihood of birth dystocia and fetal distress.

The mean scores of pregnant women with low birth fear on the Wijma Scale, the birth self-efficacy inventory subscales, and total mean scores, revealed a statistically negative and significant correlation ($p<0.01$), and, as their fear of childbirth increased, their self-efficacy levels decreased. In her study to determine the correlation between fear of birth and self-efficacy in birth among healthy primiparous women, Lowe could not find a correlation between outcome expectancy in birth and fear of childbirth; however, she found a significant correlation between self-efficacy expectancy and fear of childbirth [8]. In their study, Khorsandi et al. determined that women with high levels of confidence experienced less pain during delivery. Teaching pain management techniques in the prenatal period reduced labour pains and positively increased self-efficacy levels, while fear of birth decreased as the self-efficacy level increased [17].

A statistically negative and significant correlation ($p<0.01$) existed among the mean scores of pregnant women with high levels of birth fear on the Wijma Scale and the birth self-efficacy inventory's outcome expectancy and total mean scores. As the pregnant women's birth fears increased, their self-efficacy levels decreased. In comparison, Lowe [8] could not find a correlation between the mean score on the inventory's outcome expectancy subscale and fear of birth, whereas she found a statistically negative and significant correlation between the mean score on the self-efficacy expectancy subscale and fear of birth. Pregnant women with high levels of fear were found to have high levels of desperation, low control capability,

and low self-esteem. It was determined that many pregnant women with high levels of birth fear lost control and felt high levels of pain during delivery which was similar to the results in a study by Salomonsson et al. [16].

In conclusion, the results of the study could be useful for midwife and nursing practice. Our results will support the midwies and nurses among whom the self-efficancy is low during pregnancy and it will reduce the C-section rate by reducing birth fear. We offer some recommendations for midwife, nurse and researcer to direct the pregnant women to prenatal classes and to prepare them for delivery, their fear of birth decrease, and improve their self-efficacy perceptions.

CONCLUSION

In this study, the self-efficacy of pregnant women with high level fear of birth is lower than compared to pregnant women with low level fear of birth. Pregnant women's fear of birth decreases the self-efficacy of them increases on labour.

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